

REMARKS

In the Office Action dated February 5, 2003, **Claim 27** was rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims 4, 14, 18, 22, 24, and 35 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicants regard as the invention.

Claims 1, 7, 35, and 36 stand rejected under 35 U.S.C. §102(e) as being anticipated by Yung (U.S. Patent No. 6,484,350).

Claim 13 stands rejected under 35 U.S.C. §102(e) as being anticipated by Miyake, et al., U.S. Patent No. 3,353,189.

Claims 2-6, 17, 19-23, 25-27, and 30-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yung in view of Meijer, et al. (U.S. Patent No. 6,256,834).

Claims 18, 24, 28, and 33-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yung in view of Meijer, et al., and further in view of Miyake, et al.

Claims 8-14, and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yung in view of Miyake, et al.

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yung in view of Miyake, et al., and further in view of Lee, et al. (U.S. Patent No. 3,653,190).

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yung in view of Miyake, et al., and further in view of Reichow, et al. (U.S. Patent No. 5,979,014).

Claim 29 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yung, Meijer, et al., and Miyake, et al., and further in view of Lee, et al.

Claim 37 stands rejected under 35 U.S.C. §103(a) as being unpatentable

over Yung, in view of Reichow, et al., and Watson (U.S. Patent No. 6,295,831).

Claim 39 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yung in view of Reichow, et al.

Claim 40 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yung and Reichow, et al., and further in view of Watson.

Claims 41 and 43 stand rejected over Yung and Reichow, et al. and further in view of Shiranyagi, et al. (U.S. Patent No. 3,599,273).

Claim 42 stands rejected over Yung and Reichow, et al. and further in view of Meijer, et al.

Claim 44 stands rejected over Yung and Reichow, et al. and further in view of Miyake, et al.

For the reasons outlined in detail below, it is respectfully submitted that the pending claims are in condition for allowance.

35 U.S.C. §112 Rejections

Applicants have carefully amended the claims to address each of the points raised by the Examiner. In particular:

Claim 27 has been amended to replace inlet with outlet (second and third occurrences), as suggested by the Examiner.

Claims 14-16 have been amended to recite a "bagless vacuum cleaner," as suggested by the Examiner.

Claim 18 has been amended to recite "a plurality of wheels connected to said main housing and adapted to support said main housing movably on an associated support surface in an operative position" to provide antecedent basis for the plurality of wheels and support surface. This language is supported by claim 8, as originally filed.

Claim 22 has been amended to recite a "closed second end" in place of an "end wall."

Claim 24 has been amended to recite "**an** associated support surface" and "**a** plurality of wheels" to provide antecedent basis for these elements.

Claim 35 has been amended to recite "a support surface" to provide antecedent basis for this element.

Accordingly, it is respectfully requested that the §112 rejections be withdrawn.

The References of Record

Yung is directed to a bagless canister vacuum cleaner **10**. A dust collection unit **16** includes a handle, a closed end **36**, and an opposite end with a cover **82** which defines both an air inlet and an air outlet **84**. A cylindrical filter **76** in the collection unit **16** is located inside a perforated outlet chamber **34**.

Reichow, et al. discloses a mobile wet/dry device with a spout **156** at the upper end of a canister unit **22**.

Miyake, et al. discloses a vacuum cleaner with a removable collecting case **23, 123, 223**. The case may have a wheel **186, 286** attached thereto.

Lee discloses a vacuum cleaner with a caster wheel **21** on a dust collection receptacle **8**.

Shirayanagi, et al. discloses a vacuum cleaner with a shoulder belt **84**.

Watson discloses a chilling pitcher with a spout **40**.

Meijer, et al. discloses a canister vacuum with a movable cover **41**.

35 U.S.C. §102 and 103 Rejections

Claim 1 now recites a canister vacuum cleaner with a dirt cup defining a dirt separation chamber. The dirt separation chamber is conformed to impart a rotational flow pattern to an airstream passing therethrough. A filter is located in the dirt separation chamber of the dirt cup in covering relation with the airstream outlet. The filter includes a frame and a pleated filter carried by the frame and exterior thereto.

Yung fails to disclose such a dirt cup. **Yung** uses a planar filter **80** disposed across the top of the opening **78** and a porous filter **76** inside an outlet chamber **34**. There is no suggestion of using a pleated filter or of placing it exterior to a frame. In the present device, the frame helps to support the shape

of the filter when a suction force is applied.

Further, **Miyake** and **Meijer**, which are cited against dependent claims 2-6 and 8-12, respectively, do not supply the deficiencies of the Yung reference. Neither of these references discloses a pleated filter carried by a frame.

Accordingly, it is submitted that claim 1, and claims 2-12 dependent therefrom, distinguish over the references of record.

Claim 14 has been placed in independent form and now recites a bagless vacuum cleaner including a body and a dirt cup releasably connected to and selectively separable from the body. Wheels are connected to the body and/or dirt cup, at least one of the wheels being connected to a handle of the dirt cup.

The references of record do not disclose such a vacuum cleaner. As the Examiner acknowledges, **Yung** does not disclose a wheel on a handle of a dirt cup. Yung's wheels **26** are located on the chassis **12**. **Miyake** has a wheel **186**, **286**, **386** on a dust collecting case **23**. However, as the Examiner acknowledges, there is no suggestion in Miyake of placing the wheel on a handle. Indeed, there is no suggestion of a handle in Miyake.

Moreover, there is no suggestion, in either reference, that a wheel on the dirt collector handle of Yung would serve any purpose. First, Yung's handle, which appears in the figures to be of lightweight construction, is not of sufficient strength to support, at least in part, the weight of the vacuum cleaner. Second, the handle of Yung's dirt collector is in an elevated position. Thus, placing a wheel on the handle would serve no apparent purpose in moving the vacuum cleaner across the floor. Third, Yung's extractor already has a wheel on the base adjacent the dirt cup, there is thus no motivation for including a wheel on any portion of the dirt cup.

The present inventors have developed a canister vacuum cleaner in which the airstream is rotated around a generally horizontally positioned filter and in which the dirt cup has an open end. To ensure that the open end is positioned vertically so that the dirt does not fall out when the cleaner is opened, the inventors have developed an arrangement in which the dirt cup handle is

positioned adjacent the floor. This motivates the user to tip the vacuum cleaner onto its flattened end so that the handle becomes accessible, thereby ensuring that the dirt cup is in an upright position. The references of record do not suggest such a method of operation, nor any benefit from placing a wheel on a dirt cup handle.

The Examiner suggests that it is merely a matter of design choice to place a wheel on a handle. Applicants respectfully traverse. There is no suggestion that a wheel on a handle would be other than detrimental to use of the conventional vacuum cleaners, since it would make it difficult to access the handle for removal of the dirt collector. In conventional vacuum cleaners, the handle is always in an elevated position, ready for grasping by the user. Placing a handle under the dirt collector, where it is not accessible without tipping the vacuum, is clearly not a matter of design choice and is contrary to normal use of the handle.

Accordingly, since the prior art teaches against placing a wheel on a handle, it is submitted that claim 14, and claims 15-16 dependent therefrom, distinguish patentably and unobviously over the references of record.

Claim 17 recites a bagless canister vacuum cleaner which includes a dirt cup having an open first end in communication with a dirt separation chamber and a closed second end with an aperture forming an airstream outlet from the dirt separation chamber. The dirt cup is releasably coupled to the main housing with the airstream outlet of the dirt cup mated with the suction source inlet of the main housing.

The Examiner suggests that **Yung** discloses a dirt cup having an open first end in communication with a dirt separation chamber and a closed second end with an aperture forming an airstream outlet from the dirt separation chamber. The applicants respectfully traverse. One end of Yung's dust collection unit **16** is closed by a wall **36**, which is integrally formed with sidewalls **38**, as shown in Fig 2, and thus does not provide **either** an open end **or** a closed end with an aperture. Moreover, in Yung's device the inlet **46** projects into the same end of the dust collector as the outlet **78**. This end cannot serve as both the claimed

closed end and the claimed open end.

Meijer, et al., does not supply these deficiencies. There is no suggestion in **Meijer, et al.**, or in **Yung**, as to how a dust container **11** in which is mounted a conventional filter bag **21** as in **Meijer, et al.** could be incorporated into the device of **Yung**.

Claims 18, 24, and 28 are further rejected over **Miyake, et al.** **Miyake, et al.** does not supply the deficiencies of either **Yung** or **Meijer** with respect to the base claim, claim 17.

Claim 29 is further rejected over **Lee, et al.** **Lee, et al.** does not supply the deficiencies of **Yung, Meijer, and Miyake** with respect to the base claim, claim 17.

Accordingly, it is submitted that claim 17, and claims 18-29 dependent therefrom distinguish patentably and unobviously over the references of record.

Claim 30 recites a bagless canister vacuum cleaner including a dirt cup with an open first end in communication with the dirt separation chamber and an opposed second end which defines an airstream outlet from the dirt separation chamber. The dirt separation chamber is conformed to impart a rotational flow path to a dirty airstream passing therethrough.

None of the references of record discloses a dirt cup which creates a rotational flow path that has opposed first and second ends, the first end being open and the second end being closed but defining an airstream outlet. There is no suggestion in **Yung** as to how a rotational flow pattern could be created in a dirt cup having an open end opposed to the outlet end. **Yung's** opposed end **36** is closed. The air inlet is at the same end as the outlet **78**. **Meijer's** vacuum cleaner does not create a rotational flow pattern. The dirt enters through opening **27** and drops to the bottom of the filter bag **23**. Air passes through the connection duct **47** at the bottom. There is no suggestion as to how **Meijer's** dirt collector could be incorporated into **Yung's** vacuum cleaner without destroying **Yung's** purpose of creating the circulating airflow pattern illustrated in Fig. 2.

Moreover, **Miyake, et al.**, which is cited against claims 33 and 34, does not supply the deficiencies of the primary references. **Miyake, et al.** vibrates the filter

assembly **128**. However, this does not create a rotational airflow in the dust collecting case **23**.

Accordingly, it is submitted that claim 30, and claims 31-34 dependent thereon, distinguish patentably and unobviously over the references of record.

Claim 35 recites a bagless vacuum cleaner including a main housing defining a suction source inlet, an exhaust outlet and a receiver region adapted to receive a dirt cup. A dirt cup is releasably coupled to the receiver region of the main housing and includes an interior wall defining a dirt separation chamber, an open first end in communication with the dirt separation chamber, and an airstream outlet from the dirt separation chamber. A base is connected to the main housing and conformed to support the main housing and the dirt cup on a support surface in a non-operative position with the open first end of the dirt cup elevated, relative to the dirt separation chamber to prevent spillage of associated dirt and debris contents from the open first end of the dirt cup.

Yung fails to disclose such a vacuum cleaner. In **Yung**, the inlet **46** and outlet **78** to the dirt cup **16** are both at the same end of the dirt cup. Thus, even if, as the Examiner suggests, it were possible to balance **Yung's** vacuum on the air inlet **22** and chassis **12** (which is very much in doubt because the bottom portion of the dust cup handle is curved and the chassis **12** would thus fall over to one side and rest on one of the wheels **26**), the inlet **46** would be **below** the dirt separation chamber, not elevated to a select elevation which would prevent spillage of associated dirt and debris, as is presently claimed. Thus, **Yung** teaches away from the present invention since in **Yung**, the dirt and debris would spill out of the dirt cup.

Accordingly, withdrawal of the Examiner's rejections of pending claims **35-37** is respectfully requested.

Further, **claim 37**, which calls for a spout at the open end of the dirt cup, is not shown in **Yung**, as acknowledged by the Examiner. **Reichow** discloses a spout **156** at the upper end of a canister unit **22**. However, there is no teaching, in either reference, as to how **Reichow's** spout could be incorporated into a dirt

cup which, in use is positioned with its end **36** downwardly or why one would be motivated to do so. If the spout of Reichow were to be used in Yung's vacuum in place of end **36**, all of the dirt would tend to fall out of the canister, defeating the object of Yung. **Watson** discloses a chilling pitcher with a spout **40**. As with Rauch, there is no suggestion as to how Watson's spout could be placed at an open end in the dirt cup of Yung or why one would wish to do so. Accordingly, it is submitted that claim 37 further defines over the references of record.

Claim 38 recites a vacuum cleaner including a dirt cup defining a dirt separation chamber with a filter located in the dirt separation chamber. A suction source, when selectively operated, establishes and maintains a suction airstream that flows into and through the dirt separation chamber. When moving through the dirt separation chamber, the airstream moves rotationally around a substantially horizontal axis of the filter before passing through the filter and exiting the dirt separation chamber.

The references of record do not disclose such an arrangement. As the Examiner acknowledges, the filter axis of **Yung** is not substantially horizontal. Turning the axis of Yung horizontally would defeat the purpose of Yung, which is to drop the debris out of the airstream at the closed lower end **36** of the dust container **16**. If the dust cup were arranged so that the filter would lie horizontally, most of the dust would be sucked from inlet and fall onto the adjacent filter, rather than falling towards the closed end, reducing the effectiveness of the device. Thus, Yung teaches against having a horizontally oriented filter.

There is no motivation for incorporating the filter of **Miyake**, et al. into the device of Yung. Miyake does not create a rotational airflow pattern in the chamber **139**. Rather, Miyake disrupts airflow patterns by vibrating the filter. This reduces the tendency for dust to collect on the filter. Thus, the dust separation methods of Yung and Miyake are different and incompatible with one another.

Accordingly, it is submitted that claim 38 distinguishes patentably and unobviously over the references of record.

Claim 39 has been amended to recite a bagless vacuum cleaner including

a body and a dirt cup releasably connected to and selectively separable from the body. The dirt cup includes a handle, a closed first end which defines an airstream outlet, and an open second end, opposed to the first end, which defines a pour spout.

The references of record do not disclose or fairly suggest such a vacuum cleaner. In **Yung**, the outlet of the dirt collector is located at the same end as the inlet. **Reichow** also discloses a dirt collector with an outlet at the same end as the inlet. Neither reference suggests how an open end with a spout could be incorporated into the device of Yung. An open end with a spout at the base **36** of Yung's dirt collector would allow outside air to pass into the dirt collector and allow dirt to fall out of the Yung dirt cup **16** thus rendering the Yung device useless.

Accordingly, it is submitted that claim 39, and claims 40-44 dependent thereon, distinguish patentably and unobviously over the references of record.

New **claim 45** recites a dirt cup with an open first end and a closed second end. A filter defines an annular space between the filter and dirt cup interior wall. **Claim 46** recites three filters. Support for these claims come from claims 1 and 17, as originally filed, and the specification at page 7, lines 4-7, and page 10, lines 17-22. This claim patentably defines over the applied art, and the remainder of the cited art.

New **claims 47** and **48** are dependent from claim 45 and recite a bagless vacuum cleaner with three handles. Support for new claim 47 comes from the claims, as originally filed, Figures 5 and 7, and the specification at page 6, lines 4-5, page 8, lines 13-16, and page 7, lines 8-18. The cited art does not disclose such a vacuum cleaner.

New **claim 49** recites a bagless canister vacuum cleaner with a main housing defining a suction source inlet and a dirt cup releasably coupled to a receiver region of the housing. The dirt cup has a closed end with an aperture forming an airstream outlet adjacent to the suction source inlet and an open end axially spaced from the closed open end. The cited art does not disclose such a

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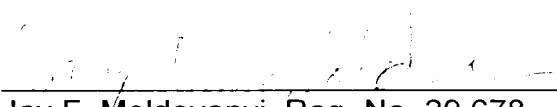
vacuum cleaner.

Support for new claim 49 is to be found in claims 1 and 17, as originally filed, and in Figures 5 and 6.

An early allowance of all of pending claims **1-12** and **14-49** is earnestly solicited.

Respectfully submitted,

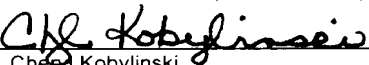
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CERTIFICATE OF MAILING

I hereby certify that this **Amendment A** in connection with U. S. Patent Application Serial No. **09/944,731** is being deposited with the United States Postal Service as first class mail in an envelope addressed to: **Mail Stop - Amendment Fee**, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on May 1, 2003.

By:


Cheryl Kobylinski